In Memoriam:

Members, Observers, Colleagues

Sir Patrick Moore (MOP)

Contributed 2,177 visual observations to the AID between 1954 and 1972

Appeared weekly on “Sky at Night” TV program

Knighted in recognition of his contributions to public understanding and appreciation of science

Robert Buchler

Longtime AAVSO supporter and user of LPV data

Professor of physics and astronomy at University of Florida

Specialized in pulsating stars and fluid dynamics

In Memoriam:

Members, Observers, Colleagues

Bill Shawcross

Longtime friend to the AAVSO

35 year career with *Sky & Telescope*

Positions included publisher, company president, and managing editor

Jorge Sahade

Astrophysicist and researcher of binary systems and massive stars

Co-discoverer of Struve-Sahade effect in double-lined spectroscopic binaries

Former president of IAU

Central figure in Argentinian astronomy, outreach, and education

Dale R. Kinne

Father of HQ staff member Richard “Doc” Kinne

Educator and real estate broker in Rome, NY

In Memoriam:

Members, Observers, Colleagues

Giovanni Sostero (SUG)

Former AAVSO member and observer

Passion for comet search, discovery, and imaging

Former president of Associazione Friulana di Astronomia e Meteorologia

Leonard B. Abbey, Jr. (ABL)

Contributed 249 visual observations to AID

Volunteer programmer for the AAVSO

Lifetime member of the Atlanta Astronomy Club

Martha Stahr Carpenter (SME)

Former three-term president of the AAVSO during transition to independence

First female faculty member and radio astronomer at Cornell University

Contributed 396 visual observations to AID

In Memoriam:

Members, Observers, Colleagues

Douglas S. Hall (HLL)

Former professor of physics and astronomy and Director of Dyer Observatory at Vanderbilt

Founder and leader of International Amateur-Professional Photoelectric Photometry Group

Frederick E. Ellis, Sr.

Lifetime AAVSO member and amateur astronomer

Former Pickering Assistant at Harvard College Observatory

Dedicated environmentalist

Samuel H. Hellenbrand

Former complimentary AAVSO member 1996-2003

Lawyer specializing in real estate law, particularly in connection with railroads

Circumstances of AAVSO membership are unclear; please contact the AAVSO with any information

In Memoriam:

Members, Observers, Colleagues

Arline Otto Waagen

Mother of AAVSO staff member Elizabeth Waagen

Frequent attendee of AAVSO meetings and HQ celebrations

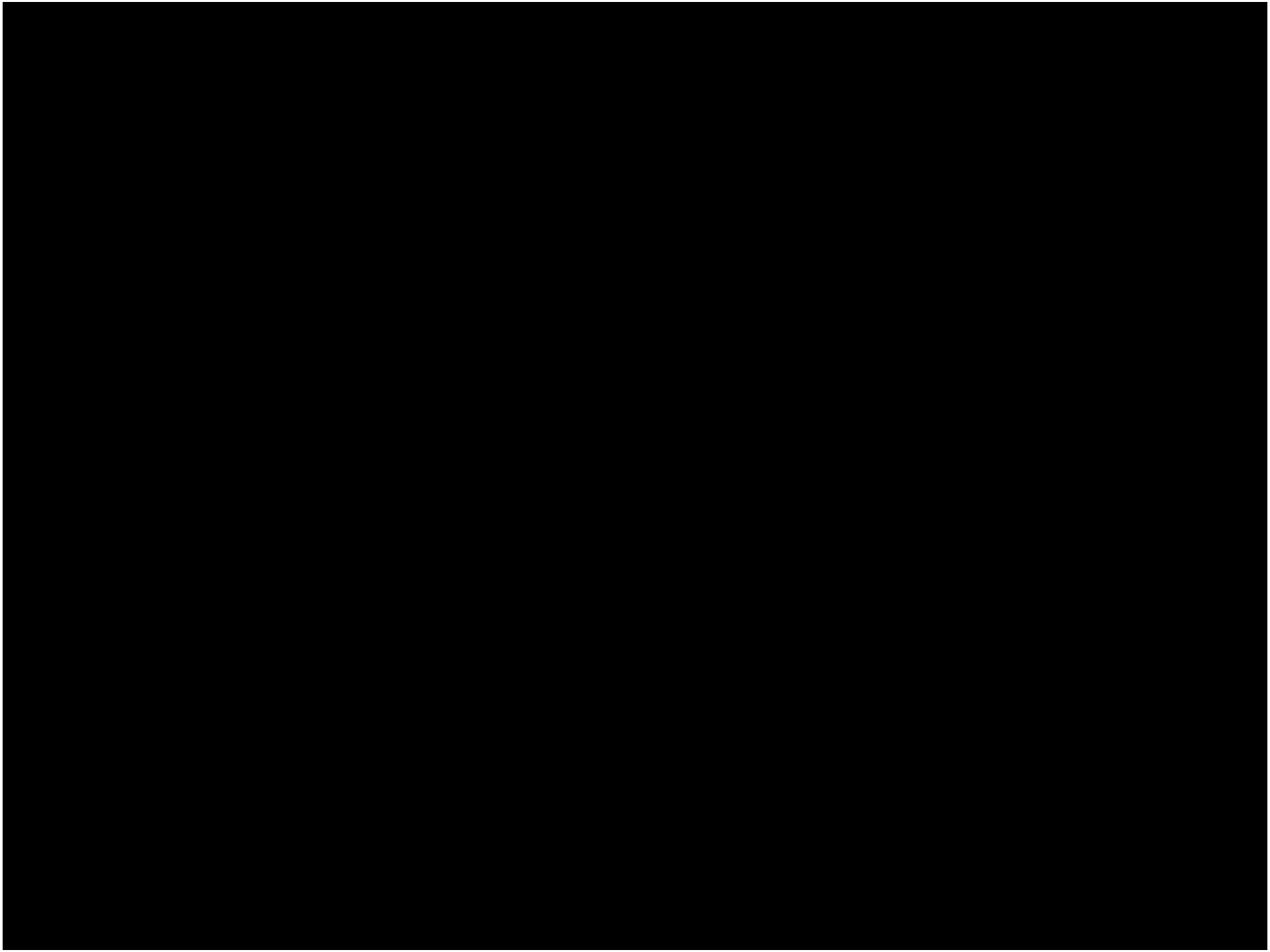
Career in hospital- and school-based social work

Edwin Hubert Morris (MRE)

AAVSO member/observer 1970-2010

Contributed 445 visual observations to the AID

Electrical engineer



New Member Summary

October 1, 2012 - March 31, 2013

New Members: 72

==========

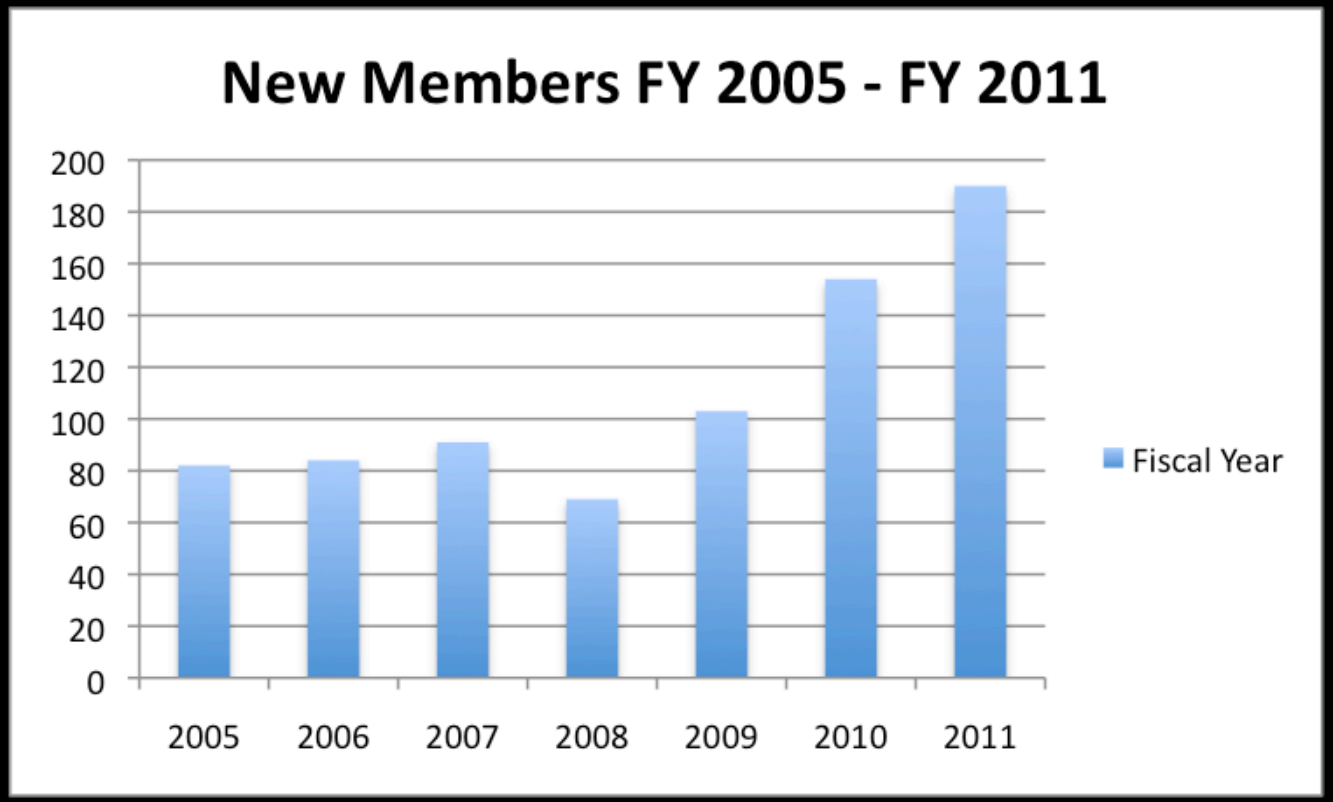
Members from US: 49

Members from abroad: 23

(from 12 countries)

New Member Summary

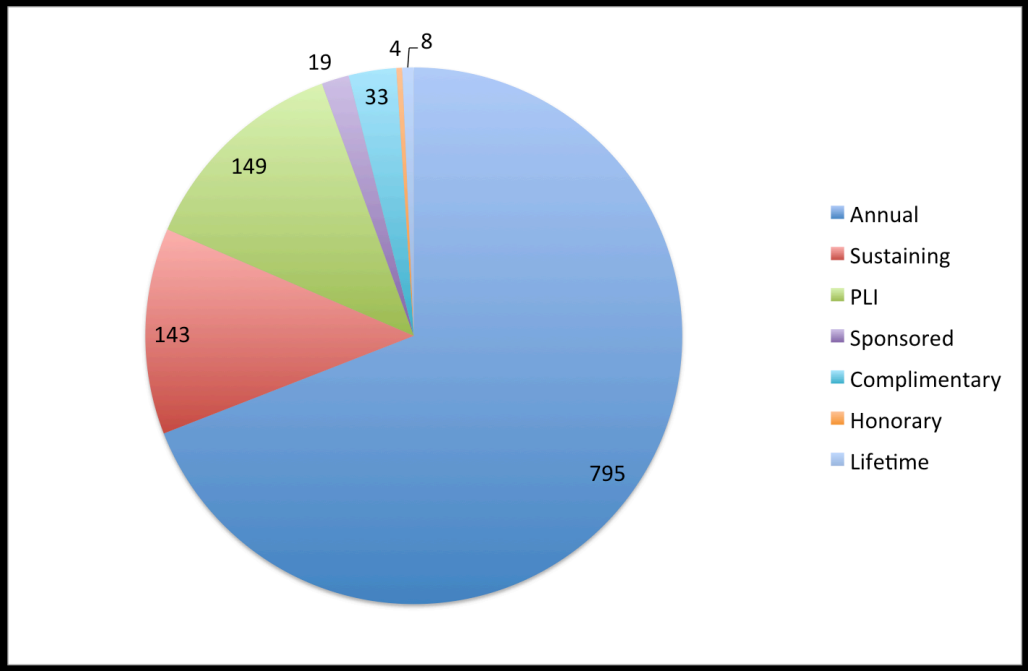
Past year New Member data

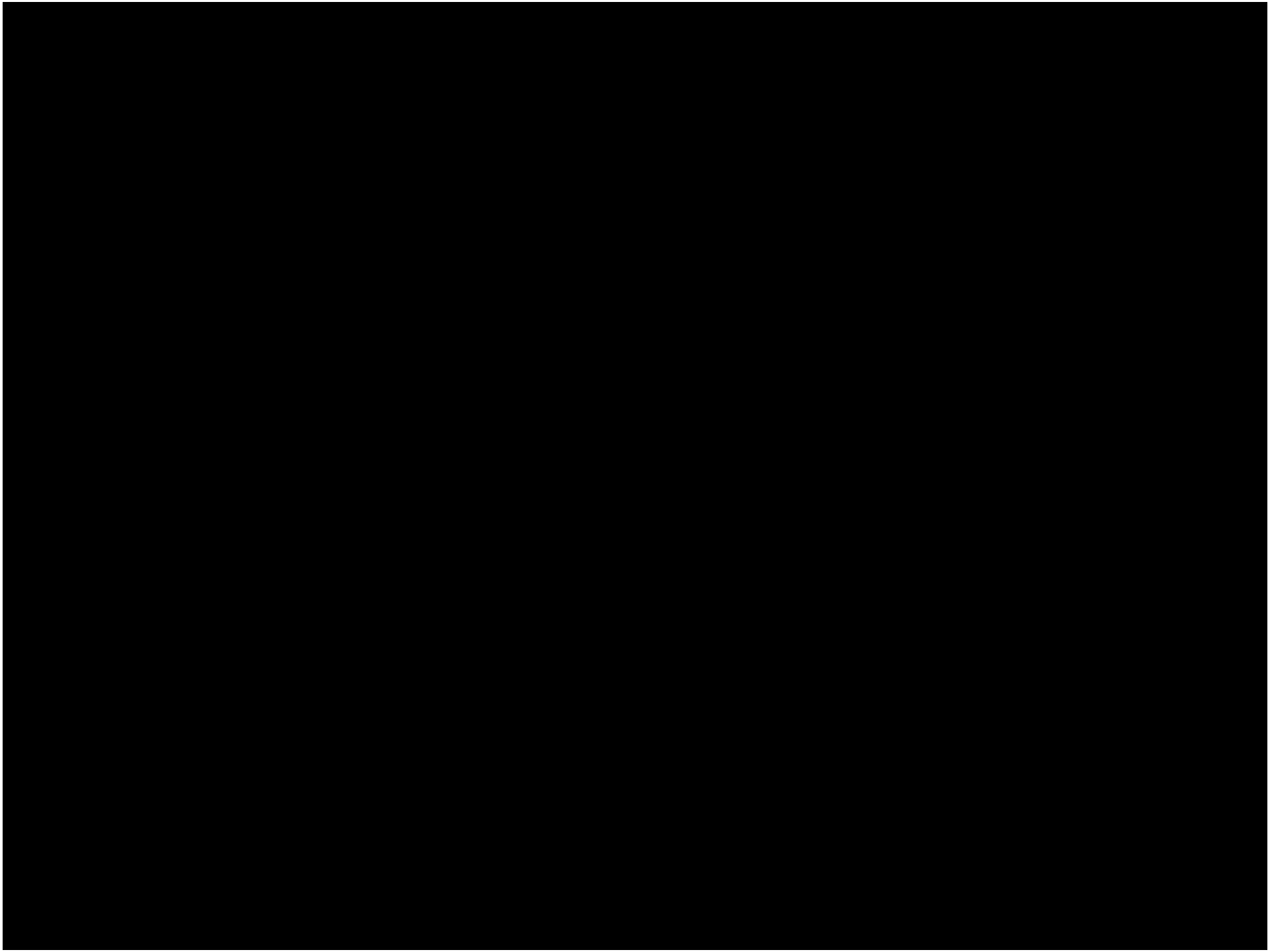


Membership Summary

As of March 31, 2013

Total Members: 1141





Director's SemiAnnual Report
May 18, 2013

Arne Henden
Director, AAVSO
arne@aavso.org

Upcoming Meetings

- CCD School: July 8-12, AAVSO HQ
- Fall meeting: October 11-12, Woburn MA

CCD School

- July 8-12, 2013 at AAVSO HQ
- $625 members
- Twenty 1.5hr lectures over 5 days
- All aspects of CCD photometry, from basic sensors, calibration, astrophysics, statistics, observing practices
- Second annual affair
- http://www.aavso.org/aavso-ccd-school

CCD School attendees - 2012

Hilton Hotel, Woburn, MA

$125/night

free parking

Free wifi

Lots of HQ events

nearby restaurants

Logan express bus to airport

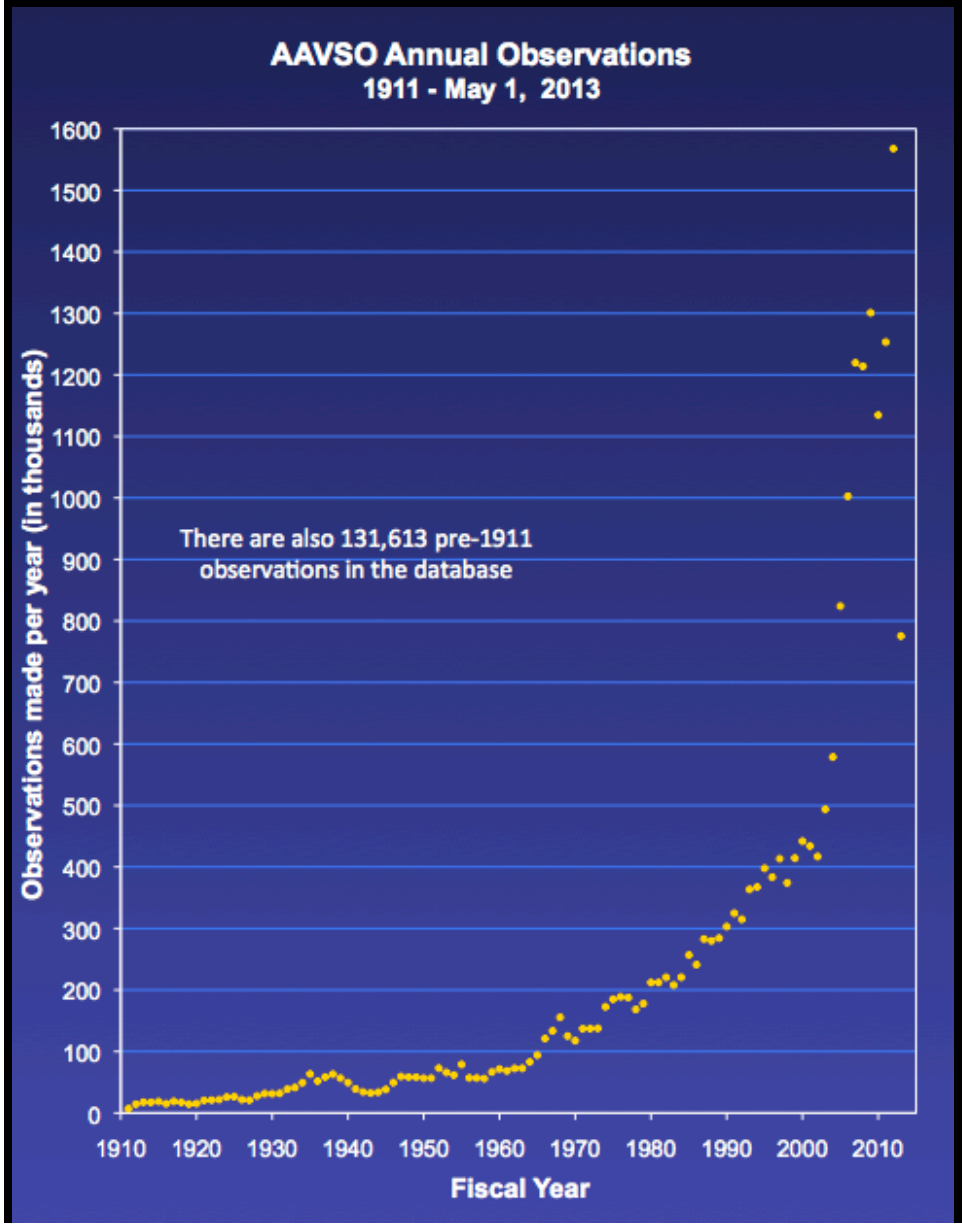
DSLR workshop

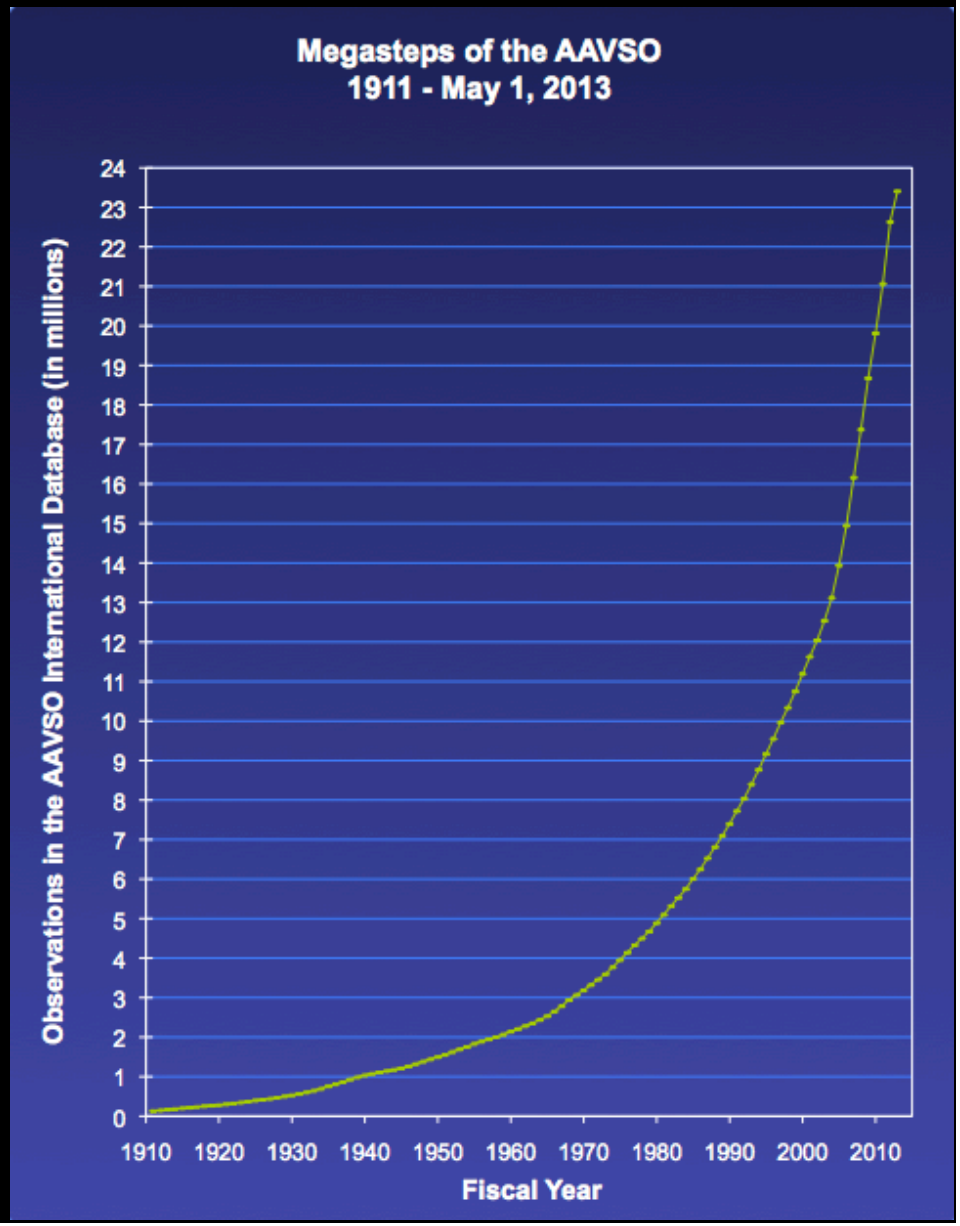
March 21-24, AAVSO HQ
Goal: produce DSLR manual

EuroVS 2013

April 26-28 Helsinki
Video talks by Henden, Simonsen

megasteps


AAVSO Annual Observations
1911 - May 1, 2013
There are also 131,613 pre-1911 observations in the database
Observations made per year (in thousands)
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
Fiscal Year


Megasteps of the AAVSO
1911 - May 1, 2013
Observations in the AAVSO International Database (in millions)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
Fiscal Year

CHOICE Certification Courses

- 9 offered so far
- Subjects include CCD image calibration, CCD photometry, uncertainty, Developing a Visual Observing program, Variable star classification

CCD class

CHOICE: CCD Photometry, Part One

New Topic | Mark All Read

Topic	Replies	Views	Created	Last reply
Sticky: Calibration images for students without telescopes	0	56	by Matthew Templeton 2013-04-08 09:32	n/a
Sticky: Course Guide, Syllabus, and Exercises	0	188	by Matthew Templeton 2013-03-18 07:43	n/a
Course Policies, assignments, and deadlines *updated*	2 2 new	106	by Matthew Templeton 2013-03-18 09:16	by Matthew Templeton 2013-05-06 13:52
Comments and Questions about the CCD Manual *updated*	11 2 new	179	by Matthew Templeton 2013-03-20 07:35	by spp 2013-04-21 19:09
Course Summary *updated*	2 2 new	61	by Matthew Templeton 2013-04-16 08:36	by Matthew Templeton 2013-04-18 09:34
Week 4 Discussion Q2 *updated*	9 5 new	167	by Matthew Templeton 2013-04-11 13:44	by rmu 2013-04-16 03:46
Week 4 Discussion Q1 *updated*	15 9 new	174	by Matthew Templeton 2013-04-08 14:45	by nmi 2013-04-14 16:01
Week 4: Flats *updated*	22 1 new	223	by Matthew Templeton 2013-04-09 12:06	by nmi 2013-04-14 14:19
Software [was:Offtopic (because it's funny)] *updated*	6 1 new	87	by Matthew Templeton 2013-04-03 11:53	by Thibault de France 2013-04-13 10:56
Week 4: After calibration *updated*	11 11 new	110	by Matthew Templeton 2013-04-10 15:22	by Thibault de France 2013-04-13 10:38
Week 3 Discussion Q2 *updated*	26 1 new	349	by Matthew Templeton 2013-04-04 13:51	by WDZ 2013-04-12 02:17
Week 3 Discussion Q1 *updated*	24 1 new	261	by Matthew Templeton 2013-04-02 07:45	by WDZ 2013-04-12 00:08
Quiz, weeks 1 & 2	2	99	by Matthew Templeton 2013-03-30 09:21	by Matthew Templeton 2013-04-04 12:24
Week 2 Discussion Q2	31	312	by Matthew Templeton 2013-03-28 12:52	by rmu 2013-04-04 03:55
Week 2 Discussion Q1	27	307	by Matthew Templeton 2013-03-25 15:40	by HQA 2013-04-03 07:27

Highlights of the May Sky...

- - - 2nd - - -
Last Quarter Moon

- - - 9th - - -
New Moon

- - - 10th - - -
DUSK: An extremely thin crescent Moon is near Venus. Look low in the WNW with binoculars just after sunset.

- - - 11th - - -
DUSK: A thin crescent Moon is ~7° below Jupiter.

- - - 12th - - -
DUSK: The crescent Moon is about 5° to the upper left of Jupiter.

- - - 17th - - -
PM: Regulus is above the First Quarter Moon.

- - - 18th - - -
First Quarter Moon

- - - 21st - - -
DUSK: A Waxing Gibbous Moon is to the right of Spica.

- - - 22nd - - -
DUSK: A Waxing Gibbous Moon is to the lower right of Saturn.

- - - 24th - - -
DUSK: Mercury is just 1½° to the upper right of Venus low in the WNW.

PM: Moon occults Beta Scorpii at 9:42 pm EDT.

- - - 25th - - -
Full Moon

- - - 26th - - -
DUSK: Venus, Jupiter, and Mercury are closest in the sky and form a nearly equilateral triangle.

- - - 31st - - -
Last Quarter Moon

Prime Focus

A Publication of the Kalamazoo Astronomical Society

☆ ☆ ☆ May 2013 ☆ ☆ ☆

This Months KAS Events

General Meeting: Friday, May 3 @ 7:00 pm
Kalamazoo Area Math & Science Center - See Page 10 for Details

Observing Session: Saturday, May 4 @ 8:30 pm
Jupiter, Saturn & Galaxies - Kalamazoo Nature Center

Observing Session: Saturday, May 18 @ 8:30 pm
The Moon & Saturn - Kalamazoo Nature Center

Board Meeting: Sunday, May 19 @ 5:00 pm
Sunnyside Church - 2800 Gull Road - All Members Welcome

Inside the Newsletter. . .

☆ ☆ ☆ www.kasonline.org ☆ ☆ ☆

CEDAR AMATEUR ASTRONOMERS, INC.

THE MONTHLY NEWSLETTER & JOURNAL OF THE CEDAR AMATEUR ASTRONOMERS. INC.

Volume 34, Number 05 http://www.cedar-astronomers.org May, 2013

The End of Sun-like Stars

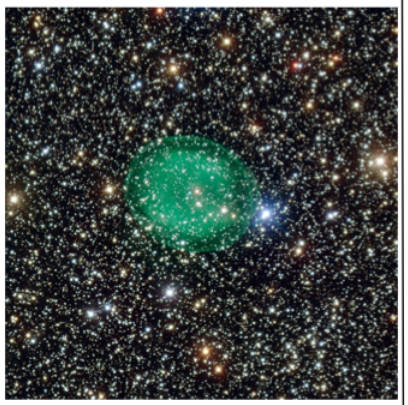
C. C. Petersen, The Spacewriter's Ramblings

REMINDER: Business meeting will be at Palisades-Dows EIOLC for May, June, and July meetings. After that the location will be re-evaluated.

Planetary Nebulae

Several times a year I go out and give public talks about astronomy and one of the questions I get a lot is, "What will happen to the Sun?" Sometimes people have this idea that the Sun will blow up in a huge explosion and overtake Earth. Others worry about something hitting the Sun and causing it to do something. Actually, things DO hit the Sun— comets do this, for example. But so far, none has made a difference in how the Sun behaves.

What DOES make a difference in how the Sun (and other stars) acts are age and mass. Stars with masses ranging from one solar mass to about 8 solar masses have fairly quiet deaths — that is, they don't blow up in titanic explosions so much as they just "puff out" their outer atmospheres to space and then fade away.



This intriguing new picture from ESO's Very Large Telescope shows the glowing green planetary nebula IC 1295 surrounding a dim and dying star located about 3300 light-years away in the constellation of Scutum (The Shield). This is the most detailed picture of this object ever taken.

The Sun is the one we care the most about. It is about 4.6 billion years old and it will likely live another four billion years before it starts to age and die. That aging process is of great interest to astronomers and so they study other stars as they die to see how the Sun will do it. The Sun and stars like it (similar in mass and luminosity) shine for billions of years before they hit retirement age and start to swell up.

As they do this, their atmospheres get "huffed off" by a stellar wind similar to our solar wind. It's almost as if the star is gently sneezing its outer layers to space. This takes a while — and all that material eventually ends up in a cloud of gas and dust that

Inside this issue:

LINN COUNTY CONSERVATION

Night Sky Network

Writer's Bureau

Update of visual observing manual (12 languages)

Péter Molnár (Hungarian)

Fatemeh Bahrani (Persian)

AAVSO

Manual for Visual Observing of Variable Stars

Revised Edition
March 2013

The **A**merican **A**ssociation of **V**ariable **S**tar **O**bservers

49 Bay State Road
Cambridge, Massachusetts 02138 U. S. A.

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Fax: 617-354-0665
Email: aavso@aavso.org
Web: http://www.aavso.org

فهرست مطالب

1. FEJEZET – ELŐKÉSZÜLETEK

AZ ÉSZLELÉSI PROGRAM ÖSSZEÁLLÍTÁSA

A kézikönyv alapvető célja, hogy útmutatást adjon a változócsillag-észlelés technikájára és az adatbeküldésre vonatkozóan. További sok hasznos tudnivaló található a belépéskor kapott „tagsági csomagban” is, valamint az AAVSO honlapjának kifejezetten az új észlelők számára készült oldalain (http://www.aavso.org/observers). Természetesen ajánlatos ezeket az anyagokat mind alaposan átolvasni, ugyanakkor AAVSO és a helyi változós szervezetek is nyitottak bármiféle kérdés megválaszolására.

A kezdetek

A követni kívánt programcsillagok kiválasztása, a megfelelő észlelési eszközök beszerzése, az észlelőhely kiválasztása, az észlelési idők és a megfigyelések gyakoriságának meghatározása mind-mind a sikeres észlelőprogram tervezésének részei. A lehető leghatékonyabban végezhető változóészlelés érdekében igyekezzünk a saját érdeklődésünknek, tapasztalatunknak, műszerezettségünknek és észlelőhelyünk körülményeinek leginkább megfelelő programot kidolgozni. Gondoljunk arra, hogy még ha havi egyetlen észlelést küldünk is be, értékes adatokkal járulunk hozzá a változócsillagászat tudományához.

Van segítség!

Az AAVSO-belül régi hagyománya van az új észlelők tanításának. Az AAVSO első napjai óta a gyakorlottabb észlelők tanácsokkal, kérdések megválaszolásával, illetve a távcső melletti személyes oktatással segítették az új észlelőket. Napjainkban a segítségnyújtás általában elektronikus formában, e-maileken vagy azonnali üzenetküldőkön keresztül, valamint telefonon történik.

A Mentor Program koordinátora keres megfelelő gyakorlott észlelőt az új megfigyelő számára, aki megmutathatja a gyakorlatban a praktikus fogásokat, technikákat, tanácsot adhat a célpontok kiválasztásában, illetve akár teljes észlelési program összeállításában is.

Mivel ennek alapja teljes egészében az önkéntes munka, ez a segítség csak az AAVSO tagjai számára elérhető. A Mentor Programról további információk a belépéskor kapott kezdőcsomagban is megtalálhatók.

Számtalan hasznos információ érhető el mind kezdő, mind gyakorlott észlelők számára az AAVSO fórumain, honlapján keresztül, valamint a különféle típusú csillagok észlelésére szakosodott fórumokon.

Magyarországon az MCSE Változócsillag Szakcsoportja: http://vcssz.mcse.hu/, illetve az Egyesület által működtetett Mira levelezőlista (l. pl. http://www.mcse.hu/ vagy http://www.csillagvaros.hu/) tagjai is készséggel válaszolnak mindennemű felmerülő kérdésre.

Mike Linnolt (LMK) saját készítésű 50cm-es, f/3,6-os gömb-mechanikával rendelkező Newton-távcsövével.

Bár a változócsillagok megfigyelése ezen útmutató alapján esetleg nem tűnik túl bonyolultnak, az első lépések nagy kihívást jelenthetnek a kezdő megfigyelők számára – néha látszólag szinte áthághatatlan akadályok tornyosulhatnak fel. Le kell szögeznünk, hogy ez teljesen normális jelenség – sajnálatos módon azonban a tapasztalatok szerint számos amatőrt bátortalanítottak el ezek a kezdeti nehézségek. Biztosíthatunk mindenkit, hogy kis idő elteltével az észlelések egyre gördülékenyebben fognak menni: mindössze egy kis gyakorlat megszerzésére van szükség.

Mely csillagokat észleljük?

Kezdők számára a „könnyen észlelhető csillagok” (Stars Easy to Observe, http://www.aavso.org/easy-stars/) listán szereplő csillagok ajánlhatóak. Ez a lista a világ minden részéről különféle évszakokban elérhető csillagokat tartalmaz, így egyszerűen csak le kell szűkítenünk a listát megfigyelőhelyünk, műszereink, illetve az észlelés időszaka által megszabott korlátoknak megfelelő csillagokra. Külön lista tartalmazza a binokulárokkal és szabad szemmel is elérhető, valamint a nagyobb távcsöveket igénylő csillagokat. Általában célszerű az egész eget lefedni

JAAVSO

Volume 40
Number 2
2012

The Journal of the American Association of Variable Star Observers

ε Aurigae Special Edition

Historic first: 1.6-μ wavelength image of ε Aur, 2009 Nov. 2, as initially processed by John Monnier, based on four telescope beam combination data acquired by MIRC at the CHARA Array and showing the shadow of the disk crossing the face of ε Aur. *see page 618*

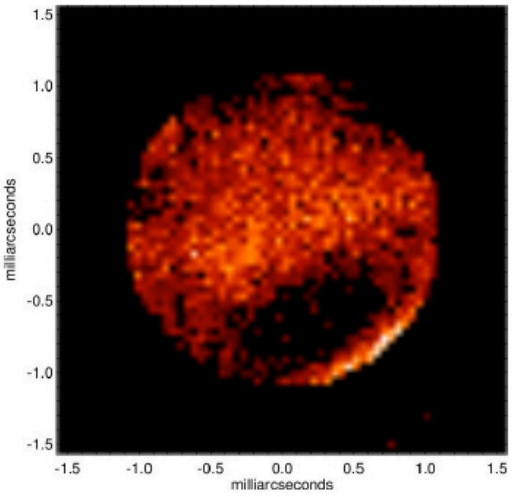
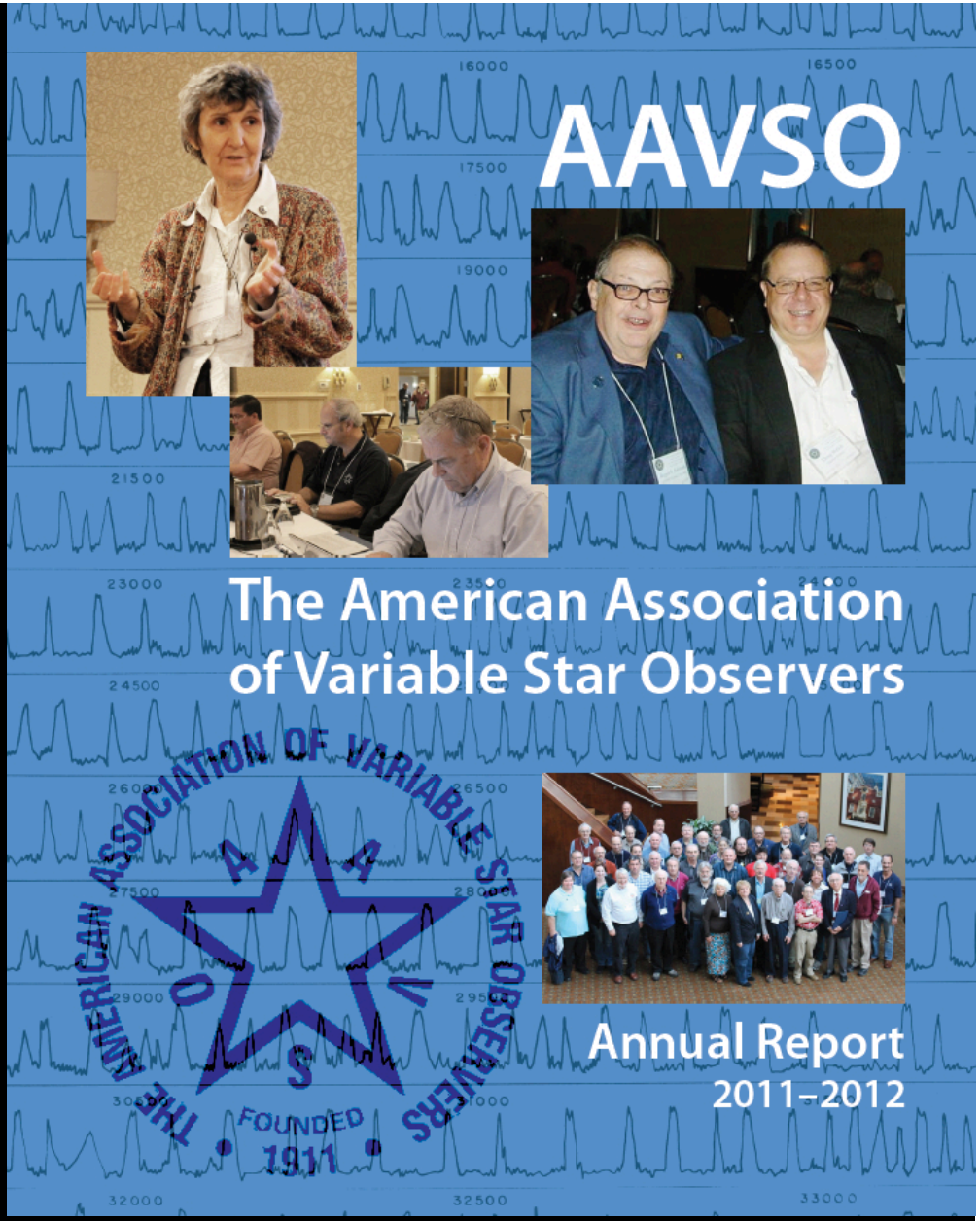


Image courtesy of John Monnier, Univ. Michigan

Also in this issue...

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS
FOUNDED 1911

49 Bay State Road
Cambridge, MA 02138
U. S. A.



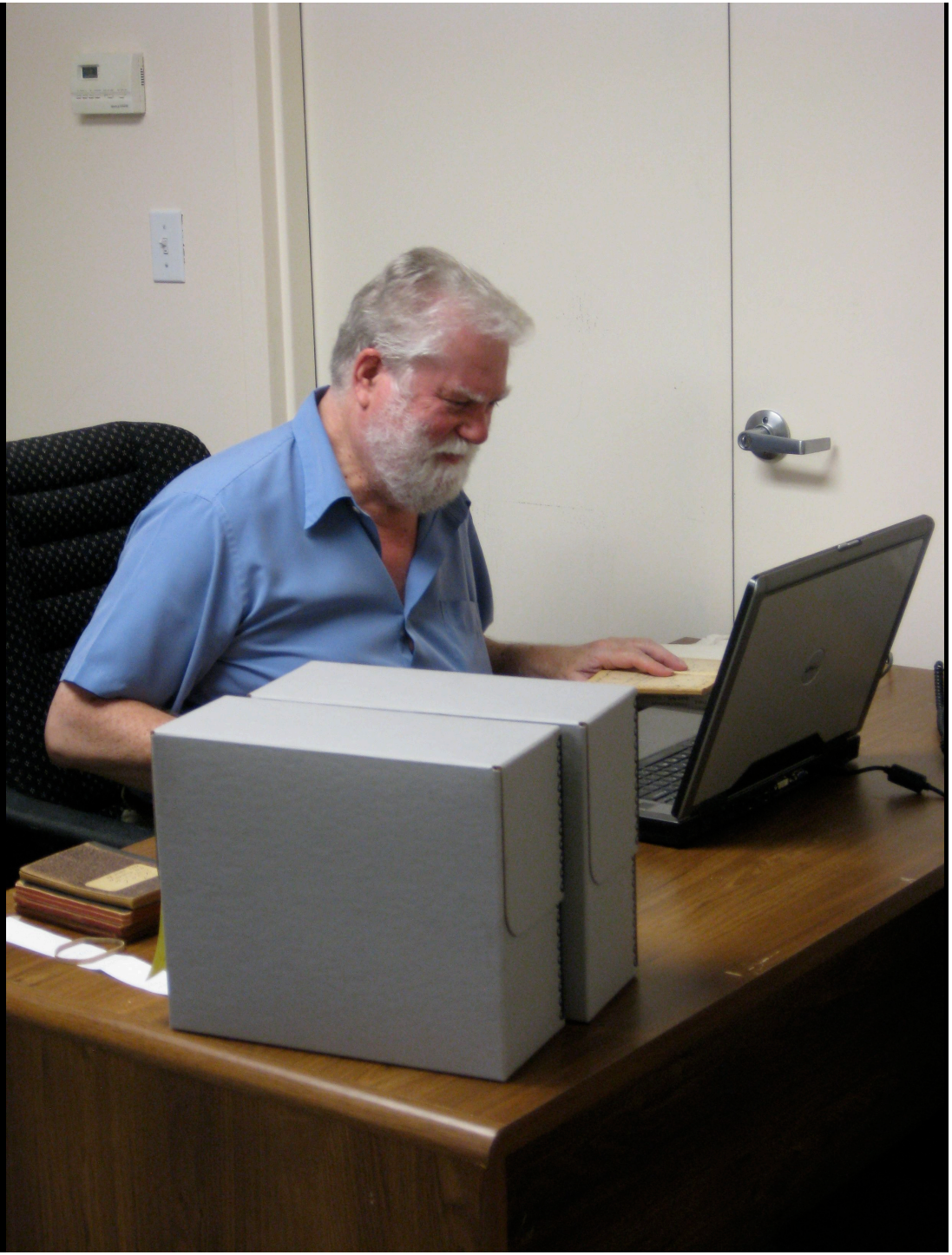
Other publications

Leif Svalgaard visit

Solar Dynamics Observatory – Stanford

Entering 67 years of sunspot data (10K records) from Herbert Luft in the AAVSO Archives (150-200 notebooks)

Homogeneous dataset for SunSpotNumber reconstruction



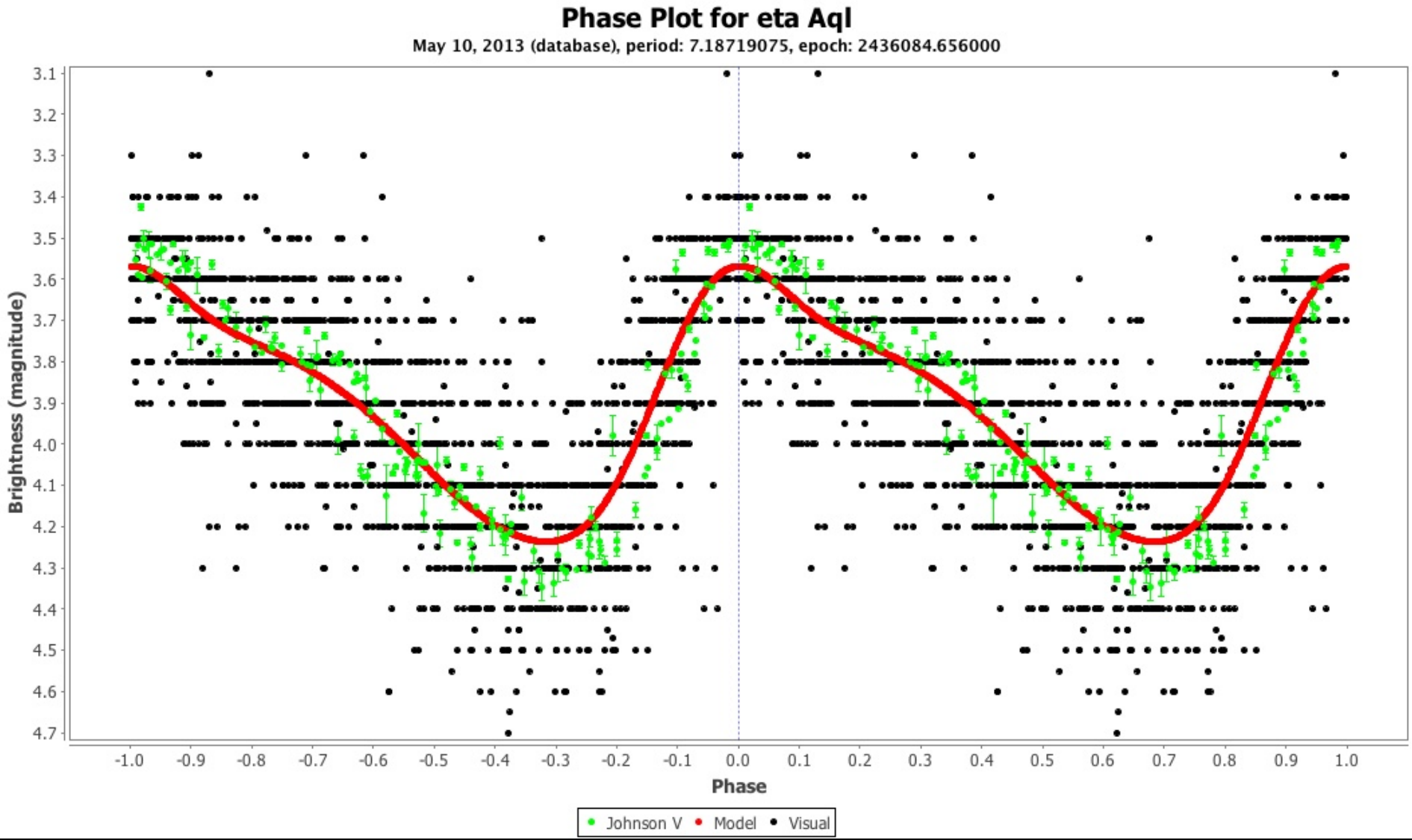
VStar updates

- David Benn, Sara Beck and other volunteers
- Now loads data from:
  - AID
  - Extended/visual/data_download file formats
  - Simple JD/mag format
  - Cataling Sky Survey format
  - Kepler
  - SuperWASP
  - ASAS (coming soon)
  - APASS epoch photometry
  - BSM epoch photometry

VStar updates

- Useful for:
  - Plotting raw and mean light curves
  - Plotting phased data
  - Period searching (DCFT, CLEANest)
  - Model creation (Fourier, polynomial, Lowess)
  - Multiperiod/changing period (WWZ)
- Also:
  - Search and filtering
  - Discrepant observation reporting (Zapper)
  - Mean time between selections calculator
  - Period-Luminosity distance calculator

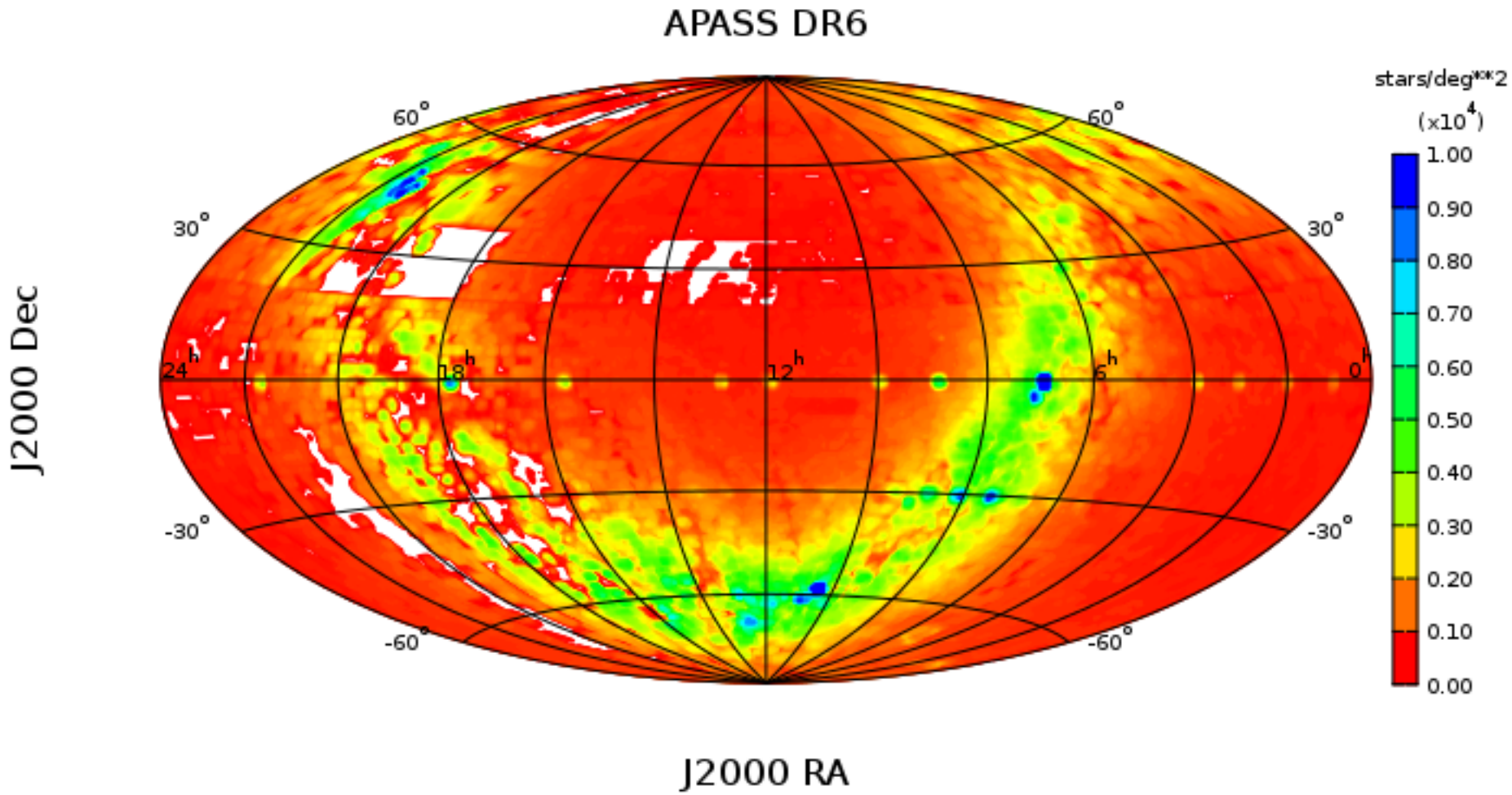
VStar eta Aql light curve with DCFT fourier model fit

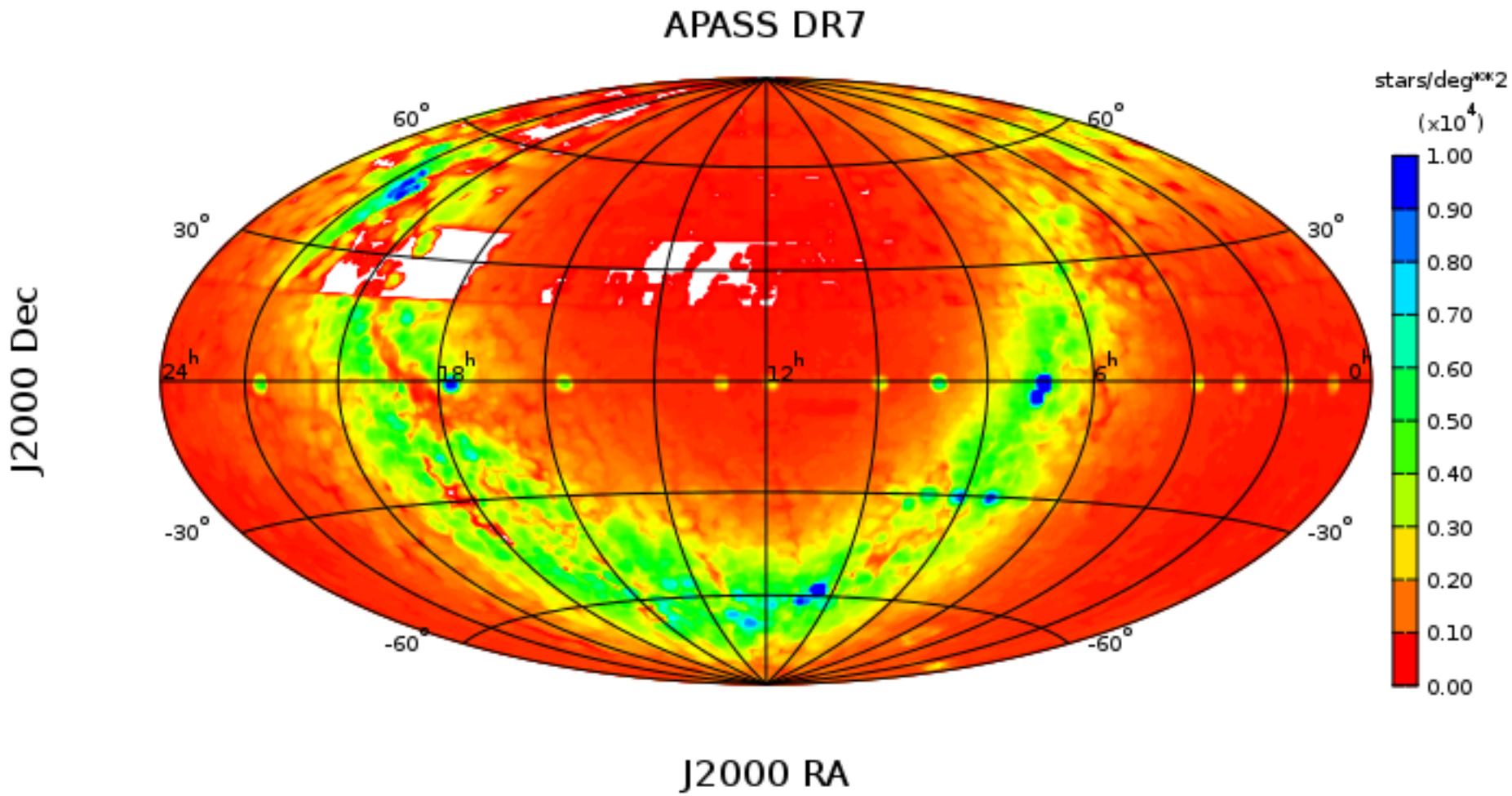


APASS update

- DR7 released (southern only) in May; previous release nearly a year ago
- DR8 (north) to be released in June
- Periodic data releases are necessary to know sky coverage
- 270 north nights, 80K images
- 520 south nights, 240K images
- About 90% complete with survey

APASS in Prompt6 clamshell


APASS DR6
J2000 Dec
J2000 RA
stars/deg**2
(x10^4)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
60°
30°
-30°
-60°
24h
18h
12h
6h
0h


APASS DR7
J2000 Dec
J2000 RA
stars/deg**2
(x10^4)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
60°
30°
-30°
-60°
24h
18h
12h
6h
0h

AAVSO 2nd Generation Synoptic Sky Survey (2GSS)

- Follow-on to APASS
- Simultaneous 2-color, 5<V<17
- RH300 f/3.0 + Lumicon 80/3.7,i'
- APM305 f/2.8 + Lumicon 80/3.7,g'
- Lowell Observatory Anderson Mesa
- 1200 fields/night, 6800 sq deg; 60GB compressed; 40M detections/night

2GSS prototype building, Anderson Mesa, Lowell

2GSS update

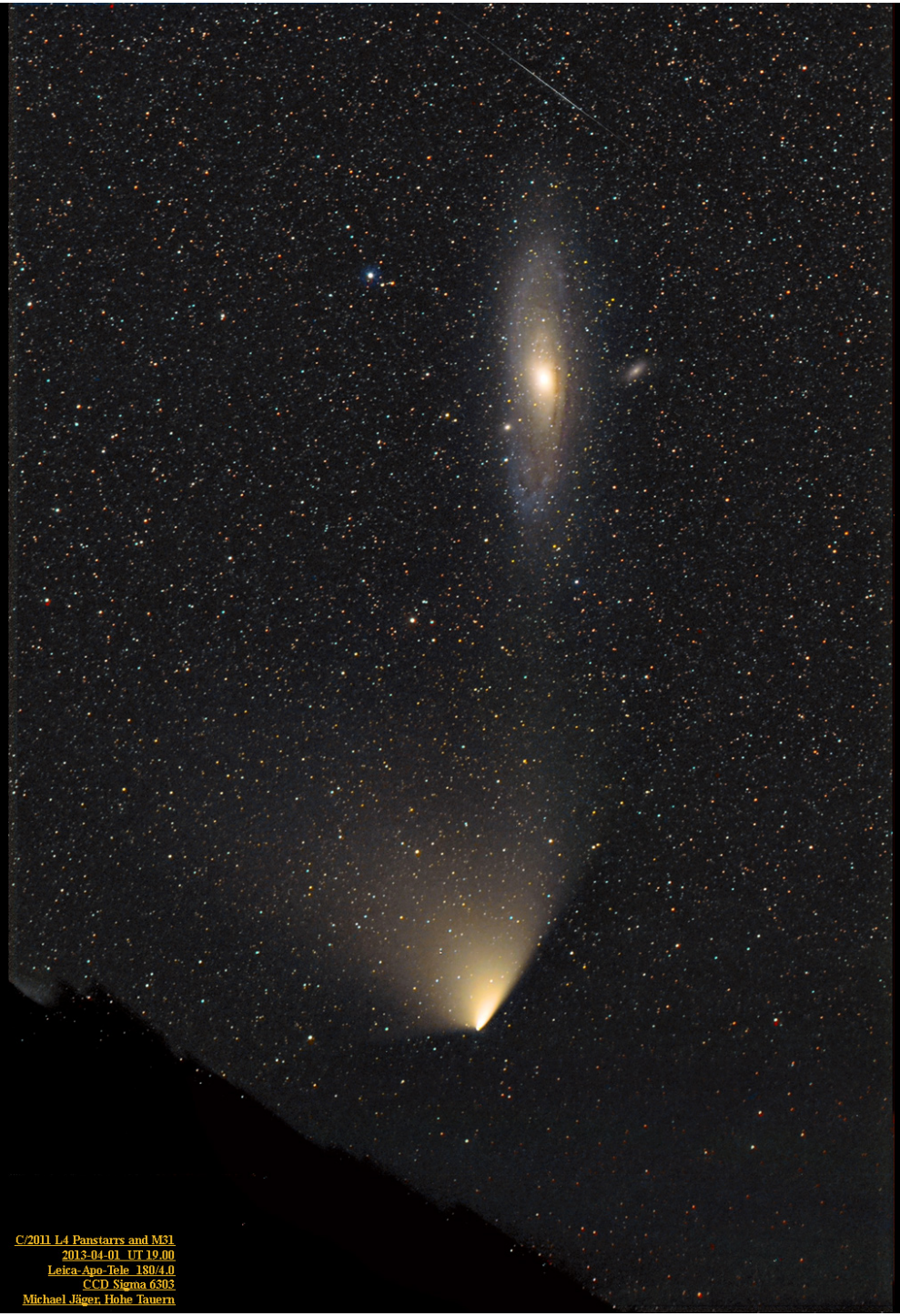
- RH300 tested at diCicco's observatory, performing adequately
- APM305 next in testing queue
- Footings to be poured by end of May
- Telescopes to be shipped by end of May
- Installation 3rd week June (Arne and Stephen Levine)

AAVSOnet

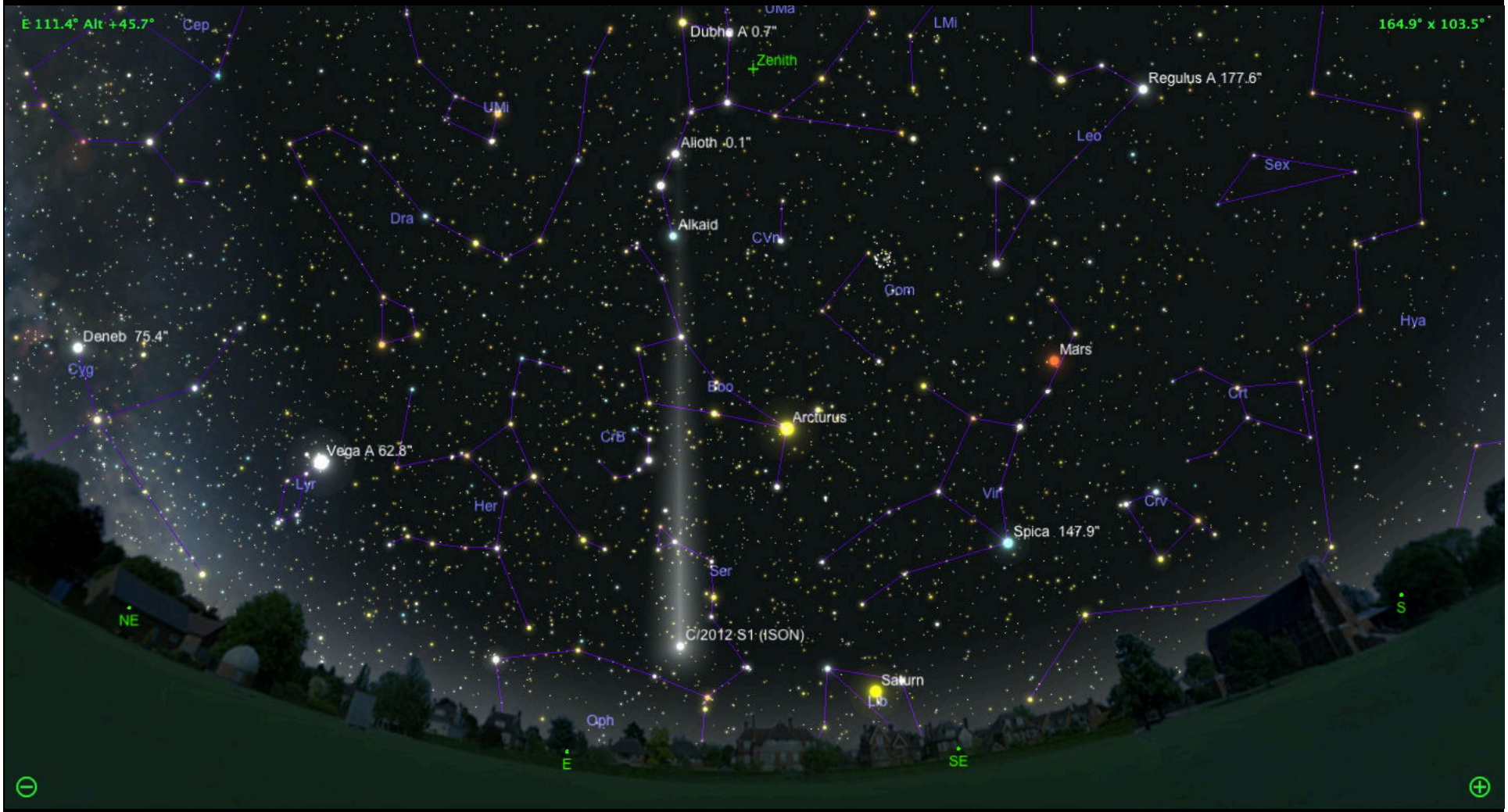
- 5 telescopes currently operational (BSM-south, W30, OC61, TMO61)
- Telescope Allocation Committee in place
- New proposal submission form
- More telescopes expected to be on-line this summer

Comet PanSTARRs
credit: Comolli (?)

Comet PanSTARRs
credit: Jager



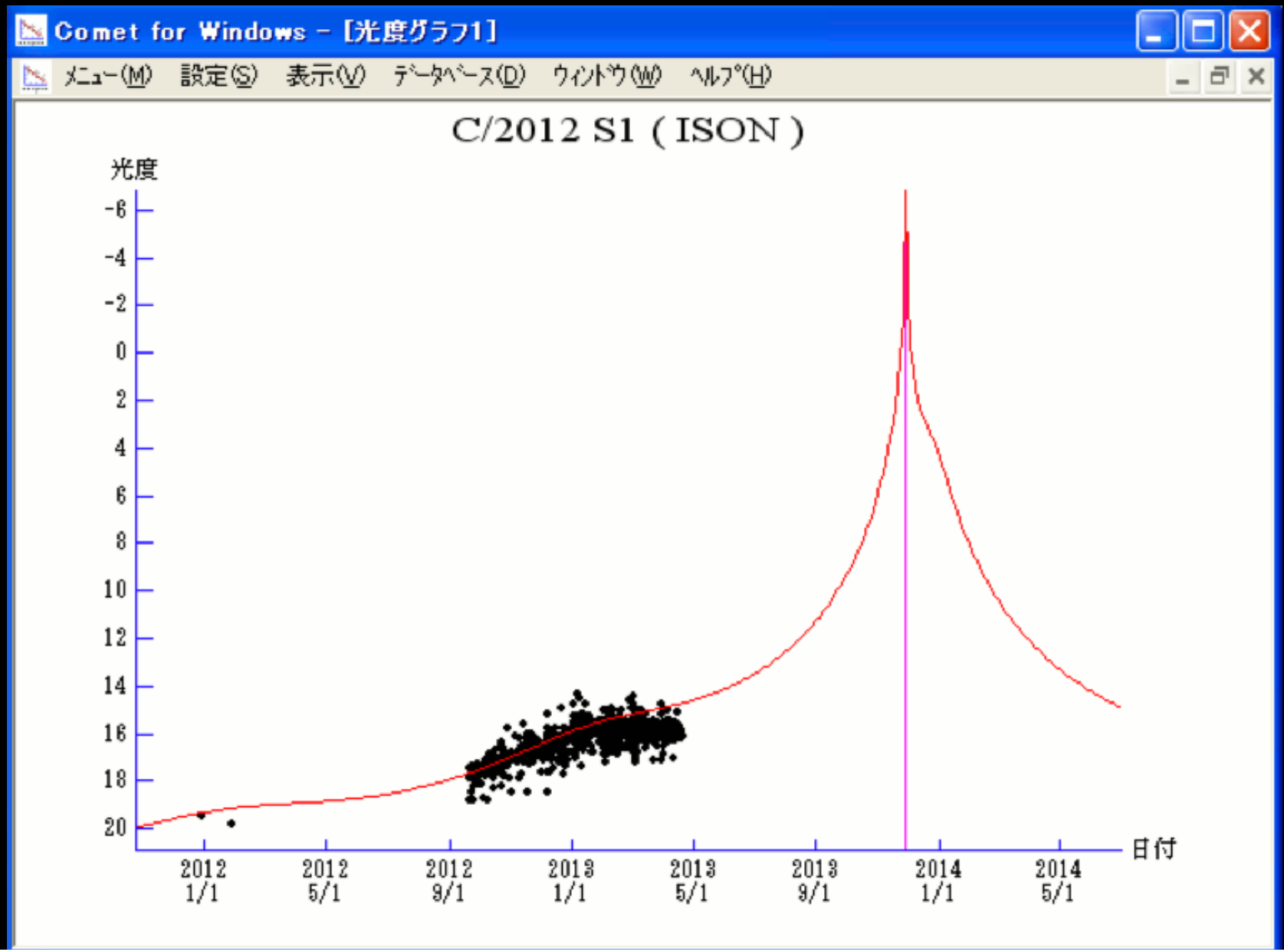
Comet ISON


E 111.4° Alt +45.7°
Cep
UMa
Dubhe A 0.7"
LMi
164.9° x 103.5°
Zenith
Regulus A 177.6"
UMi
Alioth 0.1"
Leo
Sex
Dra
Alkaid
CVn
Com
Hya
Deneb 75.4"
Cyg
Mars
Boo
Crt
Arcturus
CrB
Vega A 62.8"
Lyr
Her
Vir
Crv
Spica 147.9"
Ser
NE
S
C/2012 S1 (ISON)
Saturn
Lib
Oph
E
SE

HST ISON

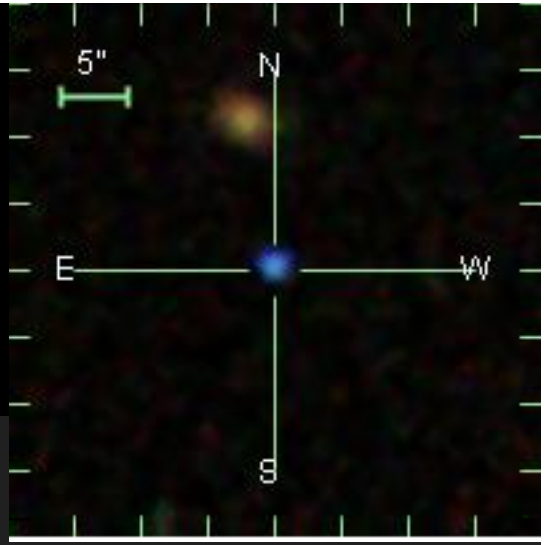
ISON Photometry http://spiff.rit.edu/richmond/asras/comet_phot/comet_phot.html

http://aerith.net/comet/catalog/2012S1/2012S1.html



SDSS J231611.64+273449.7
CSS J231611.6+273449

MASTER R=14.5 on May3



Photcat DB query

V mag

Light Curves

CSS_J231611.6+273449

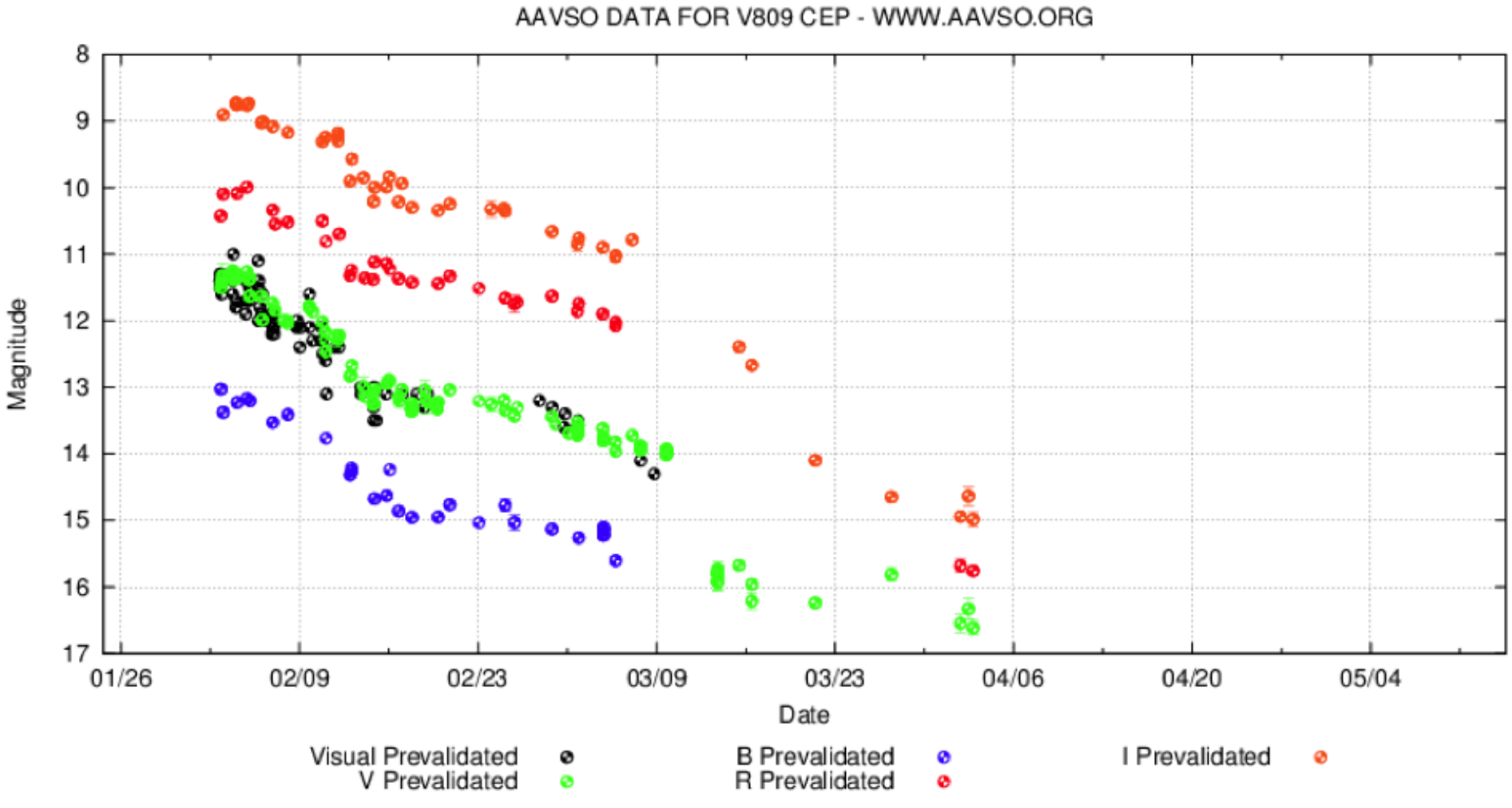
17.0
18.0
19.0
20.0
21.0

54000
54500
55000
55500
56000

Date (MJD)

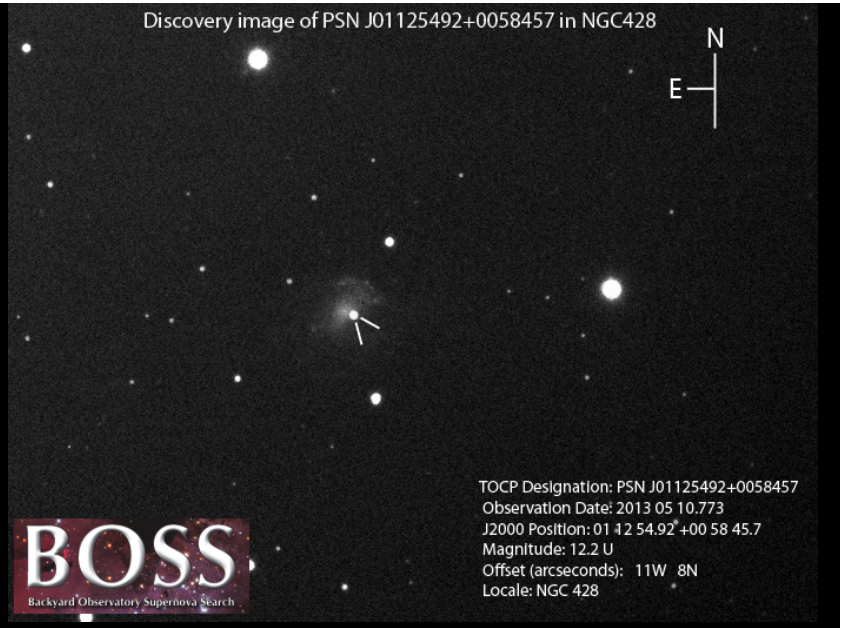
V809 Cep

Nova Cep 2013
23:08:04.70 +60 46 51.8
CBET 3397 Feb 2

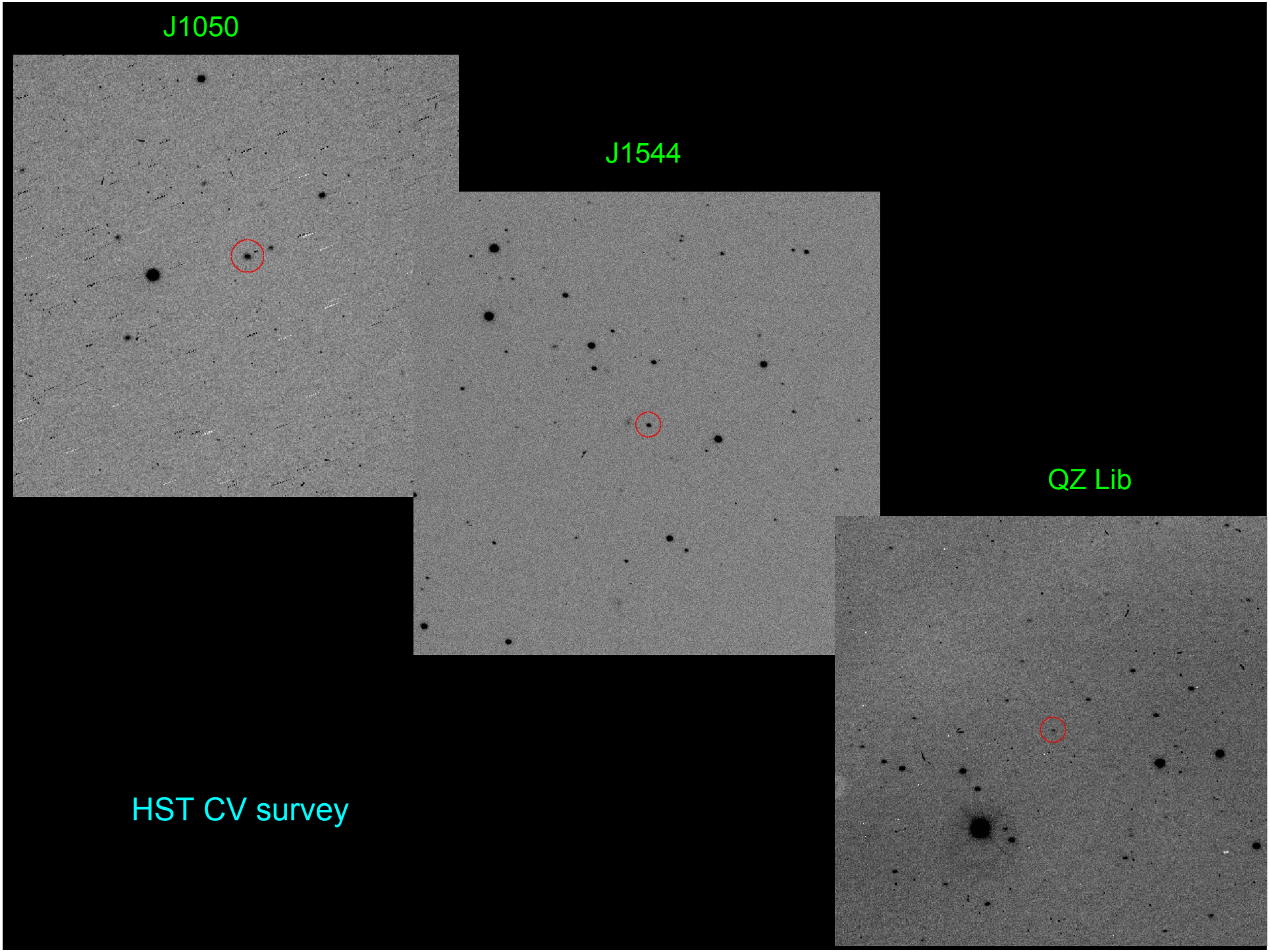


NGC 428 probable SN

01:12:54.9 +00:58:46
Mag 12.2 May 10
No spectroscopic confirmation



Credit: Wilcox


J1050
J1544
QZ Lib
HST CV survey

74 Observer Awards

- 1 PEP (SdS)
- Visual
  - 16 at 100
  - 11 at 1000
  - 1 at 5000
  - 3 at 10000
  - 2 at 25000
  - 1 at 50000
  - 1 at 125000 (PW)
- CCD
  - 21 at 1000
  - 9 at 10000
  - 4 at 50000
  - 1 at 100K
  - 1 at 200K
  - 1 at 400K
  - 1 at 500K (JH)

John Gross

Manager of Sonoita Research Observatory (SRO)

Volunteer for AAVSOnet software installation

Volunteer for APASS software installation

Thanks!

- To the many volunteers on projects like APASS, or stuffing envelopes, or writing software
- To the hundreds of observers who contribute annual observations
- To the writers of blog and forum posts
- To those that contribute funds or expertise in other ways
- To the council that helps guide the path we follow
- And especially to the staff of hard-working souls that keep this organization vibrant